

Biochemistry of viruses

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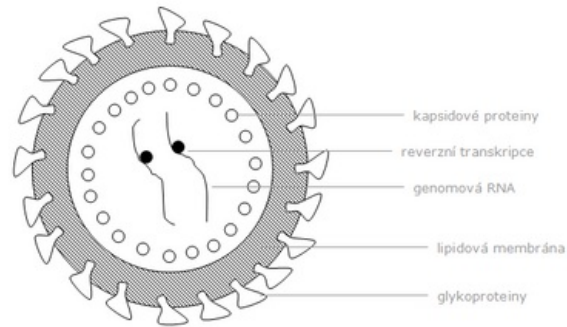
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Viruses are particles with an infectious nucleic acid encased in a protective sheath. They behave like an intracellular parasite with the information needed for their own reproduction. However, they lack the ability to release energy from substances and are not equipped with a proteosynthetic apparatus. In their reproduction, they use metabolic and proteosynthetic mechanisms of host cell.

Genetic material

Viruses contain either RNA or DNA, never both at the same time. There are a few genes in their genome (virus QB has 4 genes, chickenpox viruses 250 genes).



The complete extracellular product of viral reproduction is the **virion**, the viral particle. It consists of a viral nucleic acid, protected by a **capsid** made up of many usually identical protein molecules. In more complex viruses, the virion is enveloped in a lipid **coat** containing glycoproteins. In the virion, several molecules of specific viral enzymes, RNA-primer and possibly other molecules needed to start reproduction are "packaged".

Virus reproduction

is a model of the synthesis and formation of cellular components. It proceeds according to a simple program of gradual gene expression and gradual assembly of highly ordered structures formed by various macromolecules. According to the host, there are bacterial viruses (bacteriophages, phages) and zoopathogenic, more precisely anthropathogenic viruses. During infection, the virion either penetrates the cell and loses its coat and capsid, or the nucleic acid is injected into the host cell while the rest of the virion remains extracellular. According to the type of genetic material we distinguish DNA viruses and RNA viruses.

Links

Related Articles

- Viruses
- DNA viruses
- RNA viruses
- Reproduction of DNA viruses
- Reproduction of RNA viruses
- Interferons

Bibliography

- ŠTÍPEK, Stanislav. *Stručná biochemie : uchování a exprese genetické informace*. 1. edition. Praha : Medprint, 1998. ISBN 80-902036-2-0.

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